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In the Claims:

1. (Cancel)

2. (Previously Amended) The method according to Claim 32, wherein said step of receiving comprises receiving each of the multiple signals on separate antennas.

3. (Previously Amended) The method according to Claim 32, wherein said step of multiplexing comprises multiplexing the multiple signals using an SPDT switch.

4. (Previously Amended) The method according to Claim 32, wherein the multiple signals are RF signals.

5. (Previously Amended) The method according to Claim 32, wherein:

said step of receiving comprises receiving 2 RF signals on separate antennas; and

said step of multiplexing comprises multiplexing the 2 RF signals using an RF SPDT switch.

6. (Canceled)

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7. (Previously Amended) The method according to Claim 32, wherein Fs is the Nyquist sampling rate of a highest bandwidth of the multiple signals.

8. (Previously Amended) The method according to Claim 32, wherein said step of using comprises using the demultiplexed signals in a beam forming application.

9. (Previously Amended) The method according to Claim 32, wherein:

said method further comprises a step of downconverting the multiplexed signals to either an IF or a baseband signal;

said step of demultiplexing comprises demultiplexing the downconverted baseband signal; and

said step of using comprises using the demultiplexed signals in a beam forming application.

10. (Previously Amended) The method according to Claim 32, wherein said step of using comprises using the demultiplexed signals in an antenna diversity application.

11. (Previously Amended) The method according to Claim 32, wherein:

said method further comprises a step of downconverting the multiplexed signals to a baseband signal;

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said step of demultiplexing comprises demultiplexing the downconverted baseband signal; and

said step of using comprises using the demultiplexed signals in an antenna diversity application.

12. (Previously Amended) The method according to Claim 32, wherein said step of using comprises using the demultiplexed signals in separate applications.

13. (Original) The method according to Claim 12, further comprising the step of transmitting the multiple signals from separate sources.

14. (Previously Amended) The method according to Claim 32, wherein:

said method further comprises a step of downconverting the multiplexed signals to a baseband signal;

said step of demultiplexing comprises demultiplexing the downconverted baseband signal; and

said step of using comprises using the demultiplexed signals in separate applications.

15. (Previously Amended) The method according to Claim 32, further comprising the step of transmitting the multiple signals from separate sources.

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16. (Cancel)

17. (Previously Amended) The communication receiver according to Claim 31, wherein said communication receiver is a wireless communication receiver and said signal carrying devices are antennas.

18. (Previously Presented) A communication receiver, comprising:

a switch comprising,

at least two inputs, each input configured to be coupleable to at least two signal carrying devices,

a switching mechanism configured to multiplex signals received at said inputs; and

an output configured to carry the multiplexed signal;

a downconverter comprising an input coupled to the output of said switch and configured to downconvert the multiplexed signal; and

a signal processor comprising an input coupled to receive the downconverted multiplexed signal and an output;

wherein:

said signal processor is configured to provide, at the signal processor output, a data signal substantially corresponding to data contained in a communication signal carried by the signal carrying devices;

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an A/D converter configure to convert the downconverted multiplexed signal to a digital signal;

a demultiplexer configured to demultiplex the digital signal into at least two component digital signals, each component digital signal containing a digital representation of a portion of the communication signal;

a channel estimator configured to receive the component digital signals and provide at least two estimation signals each related to a phase and amplitude shift of one of the at least two component digital signals;

a beam-forming processor configured to receive the at least two component digital signals and the at least two estimations signals and provide a demodulated signal; and

a decoder configured to receive the demodulated signal and provide the data signal;

wherein said communication receiver is a wireless communication receiver and said signal carrying devices are antennas.

19. (Previously Presented) A communication, comprising:

a switch comprising,

at least two inputs, each input configured to coupleable to at least two signal carrying devices,

a switching mechanism configured to multiplex signals received at said inputs; and

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an output configured to carry the multiplexed signal;

a downconverter comprising an input coupled to the output of said switch and configured to downconvert the multiplexed signal; and

a signal processor comprising an input coupled to receive the downconverted multiplexed signal and an output;

wherein:

said signal processor is configured to provide, at the signal processor output, a data signal substantially corresponding to data contained in a communication signal carried by the signal carrying devices;

said communication receiver is a wireless communication receiver and said signal carrying devices are antennas; and

the signal processor comprises:

a demodulator that receives at least two digital signals each corresponding to a digital representation of a portion of the communication signal at a lower frequency which is received by one of the at least two antennas, the demodulator providing at least two demodulated signals each corresponding to one of the at least two digital signals and that provides at least two error signals each of which corresponds to an error rate of one of the demodulated signals with respect to an expected signal;

a diversity controller that receives the at least two error signals and that provides a selection signal and that provides a selection signal indicative of

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which of the demodulated signals of the at least two demodulated signals has a lower error rate; and

a memory that receives and stores the at least two demodulated signals, the memory outputting as the data signal one of the at least two demodulated signals in response to the selection signal.

20. (Original) The communication receiver of Claim 17 wherein:

the communication signal comprises a plurality of communication signals;

each antenna of the at least two antennas is configured to receive one of the plurality of communication signals;

the signal processor comprises at least two demodulators each configured to receive one of at least two digital signals each corresponding to a digital representation of a portion of a communication signal of the plurality of communication signals received by one of the at least two antennas; and

each of said at least two demodulators are configured to provide a data signal corresponding to a signal substantially corresponding to data contained in the communication signal of the plurality of communication signals.

21. (Canceled)

22. (Cancel)

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23. (Cancel)

24. (Cancel)

25. (Cancel)

26. (Canceled)

27. (Cancel)

28. (Original)   The method according to Claim 27, wherein said computer instruction are compiled computer instructions stored as an executable program on said computer readable media.

29. (Cancel)

30. (Previously Amended)   The communication receiver according to Claim 31, wherein the switch comprises a Single Pull Double Trow (SPDT) switch.

31. (Previously Amended) A communication receiver, comprising:

a switch comprising;

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at least two inputs, each input configured to coupleable to at least two signal carrying devices, and

a switching mechanism configured to multiplex signals received at said inputs;

an output configured to carry the multiplexed signal;

a downconverter comprising an input coupled to the output of said switch and configured to downconvert the multiplexed signal;

a signal processor comprising an input coupled to receive the downconverted multiplexed signal and an output;

a first Low Noise Amplifier (LNA) coupled to a first Band Pass Filter (BPF) and configured to provide a first signal to a first of the switch inputs; and

a second LNA coupled to a second BPF and configured to provide a second signal to a second of the switch inputs;

wherein:

said signal processor is configured to provide, at the signal processor output, a data signal substantially corresponding to data contained in a communication signal carried by the signal carrying devices;

the switch operates at a frequency which is substantially equal to at least twice a Nyquist required sampling rate for a bandwidth of the communication signal; and

the switch frequency comprises a sampling rate of twice a rejection bandwidth of the BPFs.

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32. (Previously Amended)   A communication method, comprising the steps of:

receiving multiple signals;

multiplexing the signals;

transporting the multiplexed signals through a single chain;

demultiplexing the signals;

using each of the demultiplexed signals in a related application; and

filtering the received signals at a rejection bandwidth;

wherein said step of multiplexing comprises multiplexing the multiple signals at a sampling rate greater than where n is the number of signals, Fs is a Nyquist sampling rate for a single signal, and at least twice the rejection bandwidth.

33. (Previously Presented)   The communication method according to Claim 32, further comprising the step of:

amplifying the received signals using a set of LNAs;

wherein:

the step of multiplexing is performed using a Single Pull Double Throw switch; and

the SPDT and LNAs are integrated on a single active chip.

34. (Cancel)